REMARKS

The Claims

Claims 39-58 are currently pending in the application. Amendments to Claims 39-41, 44, 46, 47, 49-51 presented herein are fully supported by the specification and do not introduce new matter or raise new issues requiring further consideration and/or search. Entry of the amendments is requested.

It is acknowledged that Claims 42, 43 and 48 are considered allowable.

Priority of Claims 39-58

The Examiner has invited Applicant to "verify" that the claims have written support and enablement under 35 U.S.C. 112, first paragraph, as set forth in the priority applications, U.S. Serial No. 09/244,448 filed 2/3/99 and U.S. Serial No. 09/264,527 filed 3/8/99 (hereafter the '448 and '527 applications, respectively). The Examiner alleges that the instant claims may not have benefit under 35 U.S.C. 120 for all the priority dates.

With respect to claimed nucleotide and amino acid sequences, SEQ ID NO:6 and 7 appear in Figure 2A of the '448 application; SEQ ID NO:11 and 12 appear in Figure 3A of the of the '448 application; SEQ ID NO:16 and 17 appear in Figure 12A of the '527 application . The phrase "at least about 50 (or 75) amino acid residues" appears in at p. 5, lines 9-11 of the '448 application. The residues recited in Claim 40(b) appear at p. 4, lines 33-35 of the '448 application; claim 41(b) appears at p. 5, lines 1 and 2 of the '527 application; claim 44 appears at p. 5, lines 9-11 of the '448 application; claim 45 appears at p. 5, lines 1 and 2 of the '527 application; claim 46 appears at p. 6, lines 9 and 10 of the '448 application. The phrase "95% identical to an amino acid sequence as set forth in Figure 12A (SEQ ID NO: 17)" appears at p. 36, lines 26-29 of the '448 application.

Reference to earlier filed applications appears in the first sentence of the present application as filed on November 28, 2000.

Rejections Under 35 U.S.C. 112, Second Paragraph

(1) Claims 39-41, 44, 46, 47, 49-51 and 52-58 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for reciting a nucleic acid encoding polypeptides and polypeptide fragments having "a T cell proliferation activity", "a T cell activation activity" and "binding activity to CRP1". Without acquiescing to the rejection and solely to advance prosecution, Applicant has amended the claims to recite "stimulating T-cell proliferation, activating T-cells, or binding to CRP1 of SEQ ID NO: 2". The rejection may be withdrawn.

(2) Claims 39-41, 44, 46, 47, 49-51 and 52-58 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that they recite an arbitrary protein name "CRP1". Without acquiescing to the rejection and solely to advance prosecution, Applicant has amended the claims to recite "CRP1 of SEQ ID NO: 2". The rejection may be withdrawn.

(3) Claim 51 is indefinite as it is unclear how an amino acid sequence that is "at least about 95% identical to an amino acid sequence as set forth in Figure 12A (SEQ ID NO:17) can be "at least about 50 amino acid residues" when SEQ ID NO:17 is 302 amino acids long. Without acquiescing to the rejection and solely to advance prosecution, Applicant has amended Claim 51 to recite that the fragment has an amino acid sequence that is "at least about 95% identical to a portion of an amino acid sequence as set forth in Figure 12A". The rejection may be withdrawn.

Rejection Under 35 U.S.C. 112, First Paragraph

(1) Claims 39, 41, 45, 49-51, 52 and 54-58 are rejected under 35 U.S.C. 112, first paragraph, as the specification as originally filed does not provide support for certain claimed elements.

Applicant maintain that all claimed elements are fully supported in the specification and the present claims do not introduce new concepts or change the scope of the disclosure as filed.

Disclosure of "at least about 75 amino acid residues of SEQ ID NO:7" is found at p.5, lines 21-23 of the specification. Disclosure of "residues 19-302, 20-302, 21-302, 22-302, 24-302 or 28-302" is found at p. 5, lines 10 and 11 of the specification. Disclosure of "comprising a carboxy terminus at residue 302" is

found at p. 5, lines 10 and 11 of the specification. Disclosure of "at least about 50 amino acid residues ... at least about 95% identical to an amino acid sequence as set forth in Figure 12A (SEQ ID NO:17)" is found at p. 5, lines 12-16 and lines 21-23, and at p. 46, lines 11-14 of the specification.

Although reference to "Accession no. R23544" is not present in the specification, an Applicant is not required to have explicit support in the specification in order to disclaim subject matter which has been cited as prior art See *In re Johnson and Farnham* 194 USPQ 187 (CCPA, 1977).

(2) Claims 40, 42, 44 and 52-58 are rejected under 35 U.S.C. 112, first paragraph, as the nucleotide sequence of GenBank Accession No. AB014533 is required to practice the claimed invention and must appear in the sequence listing of the application. Applicant request that any amendment of the specification to include the nucleotide sequence of GenBank Accession No. AB014533, should such an amendment be necessary, be held in abeyance pending resolution of the other outstanding rejections.

(3) Claims 39-41, 44, 46, 47 and 49-58 are rejected under 35 U.S.C. 112, first paragraph, as there is insufficient written description encompassing "CRP1". Without acquiescing to the rejection and solely to advance prosecution, Applicant has amended the claims to recite "CRP1 of SEQ ID NO: 2". The rejection may be withdrawn

(4) Claims 40, 42, 44 and 52-58 are rejected under 35 U.S.C. 112, first paragraph, as the specification is allegedly not enabling for any CRP1. Without acquiescing to the rejection and solely to advance prosecution, Applicant has amended the claims to recite "CRP1 of SEQ ID NO: 2". The rejection may be withdrawn.

(5) Claims 39-41, 44, 46, 47 and 49-58 are rejected under 35 U.S.C. 112, first paragraph, as the specification is allegedly not enabling for B7RP1 nucleic acid molecules encoding "a polypeptide which has at least one activity selected from a T cell proliferation activity, a T cell activation activity, and a binding activity to CRP1". Without acquiescing to the rejection and solely to advance prosecution, Applicant has amended the claims to recite "stimulating T-cell proliferation, activating T-cells, or binding to CRP1 of SEQ ID NO: 2". The rejection may be withdrawn.

(6) Claims 39, 40 and 41 are rejected under 35 U.S.C. 112 first paragraph, as the specification allegedly is not enabling and/or fails to provide sufficient written description for the term "complementary". Without acquiescing to the rejection and solely to advance prosecution, Applicant has amended the claims to recite "fully complementary". The rejection may be withdrawn.

(7) Claims 39-41, 44, 46, 47 and 49-58 are rejected under 35 U.S.C. 112, first paragraph, as the specification is allegedly not enabling for "nucleic 'fragments' in any form in which the flanking sequences are undefined" and a nucleotide sequence which "are[sic] not fully complementary". Without acquiescing to the rejection and solely to advance prosecution, Applicant has amended the claims to recite one or more activities of the proteins encoded by the nucleotide fragments, namely "stimulating T-cell proliferation, activating T-cells, or binding to CRP1 of SEQ ID NO: 2. In addition, the claims have been amended to recite "fully complementary". The rejection may be withdrawn.

Rejections Under 35 U.S.C. 102

Claims 39, 41 and 52-58 are rejected under 35 U.S.C. 102(a) as being anticipated by Ishikawa et al. (DNA Res. 5, 169-176 (1998)) as evidenced by GenBank Accession No. AB014553. The Examiner alleges that Ishikawa et al. teaches the nucleotide sequence identified as KIAA0653 and that the sequence was made available under GenBank Accession No. AB014553. It is argued that AB014553 encompasses the entire nucleotide sequence set forth in SEQ ID NO:11 and encompasses nucleotides 209-1098 set forth in SEQ ID NO:16. Further, the Examiner alleges that KIAA0653 is an isolated nucleic acid comprising:

The nucleotide sequence of SEQ ID NO:11;

The nucleotide sequence encoding a polypeptide as set forth in SEQ I D NO:12 from residues 1-288.

A nucleotide sequence encoding a polypeptide fragment of at least about 25, 50, 75, 100 or greater than 100 amino acid residues of SEQ ID NO:12 or SEQ ID NO:17.

A nucleotide sequence comprising a fragment of at least about 10, 15, 20, 25, 50, 75, 100 or greater than 100 nucleotides of SEQ ID NO:11 or SEQ ID NO:16.

A nucleotide sequence which hybridizes under high stringency conditions to SEQ ID NO:11.

Applicant points out that Claim 39 is directed to the nucleotide sequence of SEQ ID NO:6 and to the nucleotide sequences encoding various polypeptides of SEQ ID NO:7. SEQ ID NO:6 and SEQ ID NO:7 relate to murine B7RP1 and are not identical to KIAA0653. Claim 41 is directed to the nucleotide sequence of SEQ I D NO:16 and to various nucleotide sequences encoding polypeptides of SEQ ID NO:17. Neither SEQ ID NO:16 nor SEQ ID NO:17 are identical to the predicted polypeptide encoded by KIAA0653 (as disclosed in the GenBank entry).

It is argued that since the claims do not recite "a nucleotide sequence fully complementary", the claims are subject to prior art that teaches nucleic acid that are fully complementary. However, the Examiner has not pointed to any teaching either in the Ishikawa et al. reference or in GenBank Accession No. AB014553 which sets forth any nucleic acid molecule which is complementary to either SEQ I D NO:6 or SEQ ID NO:16.

In view of the above reasons, Applicant maintains that Claims 39 and 41are not anticipated by either Ishikawa et al. or GenBank Accession No. AB014553. Claims 52-58 depend from Claims 39, 40 or 41 and are also not anticipated for the reasons set forth above.

Claims 39-41 and 52-57 are rejected under 35 U.S.C. 102(b) as being anticipated by Gen Bank Accession No. R23544. The Examiner alleges that the nucleotide sequence in R23544 is 100% identical to nucleotides 407-771 as set forth in SEQ ID NO: 11 and 100% identical to nucleotides 606-970 as set forth in SEQ ID NO: 16. Further, the Examiner reiterates certain argument already of record, namely that R23544 is:

> A nucleotide sequence encoding a polypeptide fragment of at least about 50 amino acid residues of SEQ ID NO: 12 or SEQ ID NO: 16.
>
> A nucleotide sequence comprising a fragment of at least about 75, 100 or greater than 100 nucleotides of SEQ ID NO: 11 or SEQ ID NO: 16.
>
> A nucleotide sequence which hybridizes under stringent conditions to SEQ ID NO: 11 or SEQ ID NO: 16.

As pointed out above, Claim 39 is directed to the nucleotide sequence of SEQ ID NO:6 and to nucleotide sequences encoding various polypeptides of SEQ ID NO:7 which are not identical to R23544.

Claims 40 and 41 are directed to nucleotide sequences of SEQ ID NO: 11 and SEQ ID NO:16 and to nucleotide sequences encoding various polypeptides of SEQ ID NO:12 and SEQ ID NO:17. Claims 40 or 41 do not recite a nucleotide sequence encoding a polypeptide fragment of at least about 50 amino acid residues, or a nucleotide sequence comprising a fragment of at least about 75, 100 or greater than 100 nucleotides, or a nucleotide sequence which hybridizes to SEQ ID NO: 11 or SEQ ID NO: 16. The Examiners' argument that the claims are anticipated by nucleotide sequences which are complementary to SEQ ID NO: 11 and/or SEQ ID NO:16 fails in view of the lack of relevant teachings in R23544.

In view of the above reasons, Applicant maintains that Claims 39-41 are not anticipated by GenBank Accession No. R23544. Claims 52-57 depend from Claims 39, 40 or 41 and are also not anticipated for the reasons set forth above

Claims 39-41 and 52-57 are rejected under 35 U.S.C. 102(b) as being anticipated by GenBank Accession No. AA510455. The Examiner alleges that the nucleotide sequence in AA510455 is 99.7% identical to nucleotides 1-309 in SEQ ID NO:6 and 100% identical to nucleotides 120-309 in SEQ ID NO:6. It is also argued that AA510455 is:

A nucleotide sequence encoding a polypeptide fragment of at least about 50 amino acid residues of SEQ ID NO: 7.

A nucleotide sequence comprising a fragment of at least about 75, 100 or greater than 100 nucleotides of SEQ ID NO: 6

A nucleotide sequence which hybridizes under stringent conditions to SEQ ID NO:6.

Applicants note that Claim 39, while being directed to the nucleotide sequence as set forth in SEQ ID NO: 6 and to nucleotide sequences encoding various polypeptides of SEQ ID NO: 7, does not recite a nucleotide sequence comprising a fragment of at least about 75, 100 or greater than 100 nucleotides of SEQ ID NO:6 and does not recite a nucleotide sequence which hybridizes under stringent conditions to SEQ ID NO:6. Moreover, Claim 39 has been amended to recite a nucleotide sequence encoding a polypeptide fragment of at least about 100 amino acid residues of SEQ ID NO: 7, which is longer than the DNA fragment disclosed in AA510455. In addition, Claims 40 and 41 are directed to nucleotide sequences as set forth in SEQ ID NO: 11 and SEQ ID NO: 16 and nucleotide sequences encoding various polypeptides as set forth in SEQ ID NO:12 and SEQ ID NO:17, which are not identical to SEQ ID NO:6 and SEQ ID NO:7.

In view of the above, Applicant maintains that Claims 39-41 are not anticipated by GenBank Accession No. AA510455. Claims 52-57 depend from Claims 39, 40 or 41 and are also not anticipated for the reasons set forth above.

Rejection Under 35 U.S.C. 103

Claims 55-58 are rejected under 35 U.S.C. 103 as being unpatentable over Ishikawa et al. (GenBank Accession No. AB014553) in view of U.S. Patent No.5,580,756 to Linsley et al. The Examiner argues that it would have been obvious to express the protein product of KIAA0653 in either a eukaryotic or prokaryotic host cell. It is alleged that the Ishikawa et al. reference motivates one to express the KIAA0653 protein so that it can be further characterized and that one would have had a reasonable expectation of success in obtaining protein expression in either host cell.

As indicated above, Ishikawa et al. do not teach the invention in Claims 39-41 and therefore is not a reference that suggests to one skilled in the art to express the different polypeptides that are presently claimed. Moreover, there was no motivation to combine Ishikawa et al. and Linsley et al. to arrive at the claimed invention as the references disclose two distinct B7-like proteins and there was no suggestion in the references to express other related B7 proteins. Applicant respectfully requests withdrawal of the rejection.

Provisional Obviousness-Type Double Patenting

Claims 39-58 are provisionally rejected under obviousness-type double patenting as being unpatentable over Claims 1-7 of co-pending U.S. Serial No. 09/728,420 (hereafter the "'420 application").

Applicant wishes to point out that Claims 1-7, which were directed to CRP1 and B7RP1 nucleic acid molecules, have been cancelled in the '420 application. Claims 56-85 directed to B7RP1 polypeptides are currently pending in the application. It is believed that the double patenting rejection may be withdrawn.

CONCLUSIONS

Claims 39-58 are in condition for allowance and an early notice thereof is solicited.

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